

U.S. DEPARTMENT OF COMMERCE PATENT & TRADEMARK OFFICE

B/O Form PTO-1390	Transmittal Letter to the United States Designated/Elected Office (DO/EO/US) Concerning a Filing Under 35 USC 371	Attorney's Docket Number HOHM3001/JEK
U.S. Application Number (if known) 09/926191		
International Application Number PCT/EP00/02544	International Filing Date 22 March 2000	Priority Date Claimed 23 March 1999
Title of Invention DATA CARRIER WITH A BATTERY AND DISPLAY		
Applicant(s) for DO/EO/US Arno HOHMANN et al.	Assignee	

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items under 35 USC 371:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 USC 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 USC 371.
3. ☒ This express request to begin national examination procedures (35 USC 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 USC 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed 35 USC 371(c)(2).
 - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English (35 USC 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 USC 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 USC 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 USC 371(c)(4)). (☐ Executed ☒ Unexecuted)
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 USC 371(c)(5)).

Items 11 to 16 below concern other document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☐ A **FIRST** preliminary amendment.
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information: 1 sheet of formal drawing

Application Number (if Known) 09/926191		International Application Number PCT/EP00/02544		Attorney's Docket Number HOHM3001/JEK	
				Calculations	PTO USE ONLY
17. The following fees are submitted: Basic National Fee (37 CFR 1.492(a)(1)-(5)): <input checked="" type="checkbox"/> Search report has been prepared by the EPO or JPO \$860.00 <input type="checkbox"/> International Preliminary Examination Fee paid to USPTO (37 CFR 1.482) \$690.00 <input type="checkbox"/> No International Preliminary Examination Fee paid to USPTO (37 CFR 1.482) but International Search Fee paid to USPTO (37 CFR 1.445(a)(2)) \$710.00 <input type="checkbox"/> Neither International Preliminary Examination Fee (37 CFR 1.482) nor International Search Fee (37 CFR 1.445(a)(2)) paid to USPTO \$1000.00 <input type="checkbox"/> International Preliminary Examination Fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00					
ENTER APPROPRIATE BASIC FEE AMOUNT				\$ 860.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).					
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total Claims	1 -20 =		× \$18.00		
Independent Claims	1 -3 =		× \$80.00		
Multiple Dependent Claims (if applicable)			+ \$270.00		
TOTAL OF ABOVE CALCULATIONS				\$ 860.00	
Reduction by ½ for filing by small entity, if applicable. Small Entity Status is asserted pursuant to 37 CFR 1.27 for this application.					
SUBTOTAL				\$ 860.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).					
TOTAL NATIONAL FEE				\$ 860.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property.					
TOTAL FEES ENCLOSED				\$ 860.00	
Amount to be:				Refunded:	
				Charged:	

- a. ☒ A check in the amount of \$860.00 to cover the fees is enclosed.
 b. ☐ Please charge my Deposit Account Number 02-0200 in the amount of \$_____ to cover the above fees.
 A duplicate copy of this sheet is enclosed.
 c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account Number 02-0200. A duplicate copy of this sheet is enclosed.

Note: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.



Customer 23364

BACON & THOMAS, PLLC
 625 SLATERS LANE - FOURTH FLOOR
 ALEXANDRIA, VIRGINIA 223124-1176
 (703) 683-0500

DATE: 21 September 2001

Respectfully submitted,

J. Ernest Kenney
 J. Ernest Kenney
 Attorney for Applicant

Registration Number: 19,179

09/926191

**TRANSLATION OF
ANNEXES
TO IPER
FOR
PCT/EP00/02544**

Data carrier with a battery and a display

This invention relates to a data carrier, in particular a smart card, with a battery and a display.

For payment transactions there has been introduced in recent years a money card, a so-called electronic purse, which is formed by a smart card. At suitably designed terminals one can load amounts of money into the electronic memory of the smart card to be used later for the payment of purchases.

Known smart cards have the disadvantage, however, that the user cannot see which amount of money is still available. The article "Dünn wie Papier," Wirtschaftswoche, 21 Jan. 1999, discloses a smart card that permits a user to find out the particular amount of money available. The smart card has for this purpose a display that is supplied by a flat battery and can be activated by means of a switch.

Because of the small volume of the smart card, it must be guaranteed for a long life that the display is only supplied with power when this is intended by the user of the smart card. This cannot be reliably guaranteed in the known smart card since smart cards are usually kept in wallets or billfolds. The probability of inadvertent operation of the switch is therefore very high since in the wallet or billfold the smart card is constantly subjected to pressure from both sides which can also act on the switch. This would lead to relatively rapid discharge of the battery, thereby reducing the life of the smart card altogether.

FR 2 725 084 and FR 2 694 439 disclose providing a switch between a battery and a display. The switch is driven by a solar cell and permits operation of the display only in case sufficient light is present.

It is therefore the problem of the present invention to state a data carrier, in particular a smart card, in which no inadvertent discharge of the battery can occur and which is simply realized.

This problem is solved by the features of the single claim.

The invention starts out from the idea that the data carrier has a solar cell. The solar cell changes its resistance in inverse proportion to brightness. At low brightness the current flow between battery and display is thus interrupted.

The advantage of the invention is to be seen in that the above-described problem of inadvertent operation of the display in particular in a billfold or wallet can be reliably avoided since virtually complete darkness prevails in such receptacles. Current flow between battery and display is therefore reliably prevented. Additionally, operation of the display is always prevented when insufficient brightness is present for the display to be read.

Further advantages of the present invention will result from the following description with reference to a figure.

The single figure shows the schematic structure of an inventive data carrier.

The figure shows a data carrier comprising carrier 1 with electronic circuit 2, display 3, battery 5 that is connected with display 3 via switch 4, and device 6 for detecting the usability or probability of use of display 3.

Display 3 is used for representing data contained in electronic circuit 2. Display 3 can be activated via switch 4 and then indicates the data content of circuit 2. Such a data content may be e.g. the credit balance of an electronic purse. Unlike the schematic structure of the data carrier shown in the figure, a different structure can be chosen. For example, electronic circuit 2 may not be a contact-type one as shown, but a contactless one. Electronic circuit 2 then has suitable coupling elements, e.g. antennas. Electronic circuit 2 may furthermore also be supplied with power by bat-

Patent claim

A data carrier, in particular smart card, comprising a carrier (1) with at least an electronic circuit (2), a battery (5) and a display (3), the data carrier having a solar cell (6) for detecting the usability or probability of use of the display (3), characterized in that the solar cell and the battery (5) are electrically connected in series, the voltage of the battery (5) being lower than the threshold voltage of the display (3).

[illegible]

DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name; I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention (Design, if applicable) entitled: **DATA CARRIER WITH A BATTERY AND DISPLAY**
the specification of which (check one):

☐ is attached hereto, or ☒ was filed on: **(22 March 2000) 21 September 2001** as U.S. Application Number or PCT International Application Number: **(PCT/EP00/02544) 09/926,191** and (if applicable) was amended on:

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in *Title 37, Code of Federal Regulations, §1.56*. I hereby claim foreign priority benefits under *Title 35, United States Code §119* of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

PRIOR FOREIGN APPLICATION(S)			PRIORITY CLAIMED	
Number	Country	Day/Month/Year Filed	Yes	No
199 13 093.0	Germany	23 March 1999	X	

☐ Additional Priority Application(s) Listed on Following Page(s)

I HEREBY CLAIM THE BENEFIT UNDER TITLE 35 U.S. CODE §119(E) OF ANY U.S. PROVISIONAL APPLICATIONS LISTED BELOW.	
Application Number	Day/Month/Year Filed

☐ Additional Provisional Application(s) Listed on Following Page(s)

I hereby claim the benefit under *Title 35, United States Code, §120* of any United States application(s) or PCT international application(s) designating The United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of *Title 35, United States Code, §112*, I acknowledge the duty to disclose information which is material to patentability as defined in *Title 37, Code of Federal Regulations, §1.56* which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

Application Number	Filing Date	Status - Patented, Pending or Abandoned

☐ Additional US/PCT Priority Application(s) listed on Following Page(s)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under *section 1001 of title 18 of the United States Code* and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: I (We) hereby appoint as my (our) attorneys, with full powers of substitution and revocation, to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: J. Ernest Kenney, Reg. No. 19,179; Eugene Mar, Reg. No. 25,893; Richard E. Fichter, Reg. No. 26,382; Thomas J. Moore, Reg. No. 28,974; Joseph DeBenedictis, Reg. No. 28,502; Benjamin E. Urcia, Reg. No. 33,805; and

I(we) authorize my(our) attorneys to accept and follow instructions from Klunker Schmitt-Nilson Hirsch regarding any matter related to the preparation, examination, grant and maintenance of this application, any continuation, continuation-in-part or divisional based thereon, and any patent resulting therefrom, until I(we) or my(our) assigns withdraw this authorization in writing.

Send correspondence to:



Customer 23364

BACON & THOMAS, PLLC

625 Slaters Lane - 4th Floor
Alexandria, VA 22314-1176

Telephone Calls to: **J. Ernest Kenney**
(703) 683-0500

FULL NAME OF FIRST OR SOLE INVENTOR <u>Arno HOHMANN</u>	CITIZENSHIP <u>Germany</u>
RESIDENCE ADDRESS Johann-Clanze-Strasse 105, D-81369 Munchen Germany <u>DEX</u>	POST OFFICE ADDRESS IS THE SAME AS RESIDENCE ADDRESS UNLESS OTHERWISE SHOWN BELOW
DATE <u>Oct. 15, 2001</u>	SIGNATURE <u>Arno Hohmann</u>

☒ See following page(s) for additional joint inventors.


CONTINUATION OF DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

Page 2

PRIOR FOREIGN APPLICATION(S) (35 USC §119)			PRIORITY CLAIMED	
Number	Country	Day/Month/Year Filed	Yes	No

PRIOR PROVISIONAL APPLICATIONS 35 U.S. CODE §119(E)	
Application Number	Day/Month/Year Filed

PRIOR U.S. OR PCT INTERNATIONAL APPLICATIONS (35 U.S. CODE §120)		
Application Number	Filing Date	Status - Patented, Pending or Abandoned

FULL NAME OF JOINT INVENTOR Hans GRAF		CITIZENSHIP Germany
RESIDENCE ADDRESS Hochgernstrasse 3, D-83026 ^{DEX} Rosenheim, Germany		POST OFFICE ADDRESS IS THE SAME AS RESIDENCE ADDRESS UNLESS OTHERWISE SHOWN BELOW 
DATE October 15, 2001		SIGNATURE

FULL NAME OF JOINT INVENTOR	CITIZENSHIP
RESIDENCE ADDRESS	POST OFFICE ADDRESS IS THE SAME AS RESIDENCE ADDRESS UNLESS OTHERWISE SHOWN BELOW
DATE	SIGNATURE

FULL NAME OF JOINT INVENTOR	CITIZENSHIP
RESIDENCE ADDRESS	POST OFFICE ADDRESS IS THE SAME AS RESIDENCE ADDRESS UNLESS OTHERWISE SHOWN BELOW
DATE	SIGNATURE

FULL NAME OF JOINT INVENTOR	CITIZENSHIP
RESIDENCE ADDRESS	POST OFFICE ADDRESS IS THE SAME AS RESIDENCE ADDRESS UNLESS OTHERWISE SHOWN BELOW
DATE	SIGNATURE

☐ See following pages for additional joint inventors/priority applications.

DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name; I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention (Design, if applicable) entitled:

DATA CARRIER WITH A BATTERY AND DISPLAY

the specification of which (check one):

☐ is attached hereto, or ☒ was filed on: **22 March 2000**

as U.S. Application Number or PCT

International Application Number: **PCT/EP00/02544**

and (if applicable) was amended on:

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in *Title 37, Code of Federal Regulations, §1.56*. I hereby claim foreign priority benefits under *Title 35, United States Code §119* of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

PRIOR FOREIGN APPLICATION(S)			PRIORITY CLAIMED	
Number	Country	Day/Month/Year Filed	Yes	No
199 13 093.0	Germany	23 March 1999	X	

☐ Additional Priority Application(s) Listed on Following Page(s)

I HEREBY CLAIM THE BENEFIT UNDER TITLE 35 U.S. CODE §119(E) OF ANY U.S. PROVISIONAL APPLICATIONS LISTED BELOW.	
Application Number	Day/Month/Year Filed

☐ Additional Provisional Application(s) Listed on Following Page(s)

I hereby claim the benefit under *Title 35, United States Code, §120* of any United States application(s) or PCT international application(s) designating The United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of *Title 35, United States Code, §112*, I acknowledge the duty to disclose information which is material to patentability as defined in *Title 37, Code of Federal Regulations, §1.56* which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

Application Number	Filing Date	Status - Patented, Pending or Abandoned

☐ Additional US/PCT Priority Application(s) listed on Following Page(s)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under *section 1001 of title 18 of the United States Code* and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: I (We) hereby appoint as my (our) attorneys, with full powers of substitution and revocation, to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: J. Ernest Kenney, Reg. No. 19,179; Eugene Mar, Reg. No. 25,893; Richard E. Fichter, Reg. No. 26,382; Thomas J. Moore, Reg. No. 28,974; Joseph DeBenedictis, Reg. No. 28,502; Benjamin E. Urcia, Reg. No. 33,805; and

I(we) authorize my(our) attorneys to accept and follow instructions from Klunker Schmitt-Nilson Hirsch regarding any matter related to the preparation, examination, grant and maintenance of this application, any continuation, continuation-in-part or divisional based thereon, and any patent resulting therefrom, until I(we) or my(our) assigns withdraw this authorization in writing.

Send correspondence to:



Customer 23364

BACON & THOMAS, PLLC

625 Slaters Lane - 4th Floor
Alexandria, VA 22314-1176

Telephone Calls to: **J. Ernest Kenney**
(703) 683-0500

FULL NAME OF FIRST OR SOLE INVENTOR Arno HOHMANN	CITIZENSHIP Germany
RESIDENCE ADDRESS Johann-Clanze-Strasse 105, D-81369 Munchen Germany	POST OFFICE ADDRESS IS THE SAME AS RESIDENCE ADDRESS UNLESS OTHERWISE SHOWN BELOW
DATE	SIGNATURE

☒ See following page(s) for additional joint inventors.

CONTINUATION OF DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

Page 2

PRIOR FOREIGN APPLICATION(S) (35 USC §119)			PRIORITY CLAIMED	
Number	Country	Day/Month/Year Filed	Yes	No

PRIOR PROVISIONAL APPLICATIONS 35 U.S. CODE §119(E)	
Application Number	Day/Month/Year Filed

PRIOR U.S. OR PCT INTERNATIONAL APPLICATIONS (35 U.S. CODE §120)		
Application Number	Filing Date	Status - Patented, Pending or Abandoned

FULL NAME OF JOINT INVENTOR Hans GRAF	CITIZENSHIP Germany
RESIDENCE ADDRESS Hochgernstrasse 3, D-83026 Rosenheim, Germany	POST OFFICE ADDRESS IS THE SAME AS RESIDENCE ADDRESS UNLESS OTHERWISE SHOWN BELOW
DATE	SIGNATURE

FULL NAME OF JOINT INVENTOR	CITIZENSHIP
RESIDENCE ADDRESS	POST OFFICE ADDRESS IS THE SAME AS RESIDENCE ADDRESS UNLESS OTHERWISE SHOWN BELOW
DATE	SIGNATURE

FULL NAME OF JOINT INVENTOR	CITIZENSHIP
RESIDENCE ADDRESS	POST OFFICE ADDRESS IS THE SAME AS RESIDENCE ADDRESS UNLESS OTHERWISE SHOWN BELOW
DATE	SIGNATURE

FULL NAME OF JOINT INVENTOR	CITIZENSHIP
RESIDENCE ADDRESS	POST OFFICE ADDRESS IS THE SAME AS RESIDENCE ADDRESS UNLESS OTHERWISE SHOWN BELOW
DATE	SIGNATURE

☐ See following pages for additional joint inventors/priority applications.